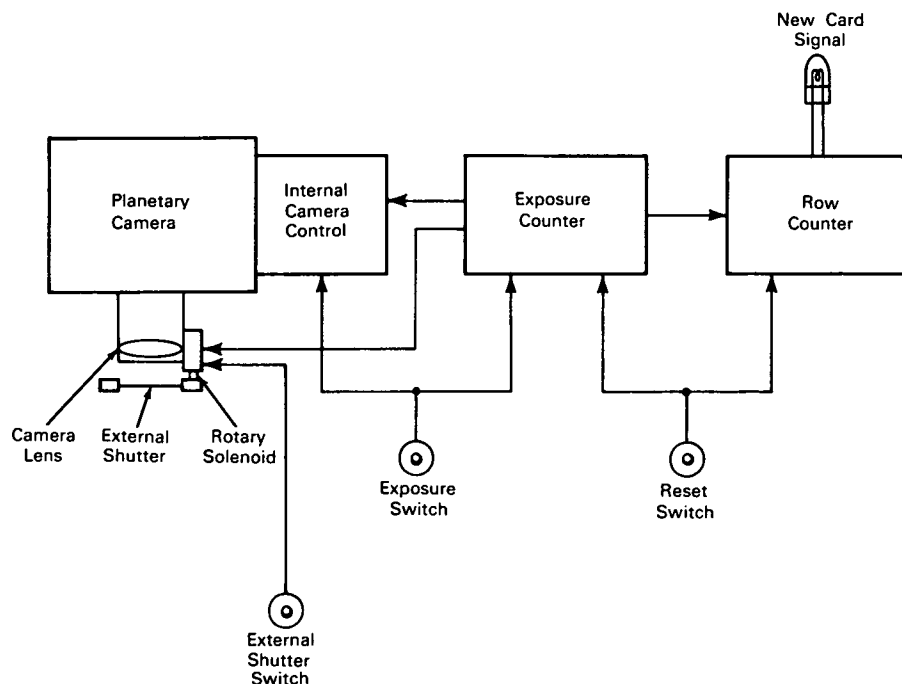


# NASA TECH BRIEF



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## Planetary Camera Control Improves Microfiche Production



**The problem:** Preparing microfiche (microphotograph transparencies in card format) with a conventional planetary camera requires time-consuming manual monitoring of the operations and can involve high error incidence. The operator must keep a count of the number of frames exposed per row, the number of rows exposed per card, determine whether or not a masthead belongs at the top of the card (this determines the number of exposed rows), and cover the lens to produce unexposed film for cutting in order to attach each row to the microfiche frame.

**The solution:** An automatic control system that provides the necessary blank end-of-row exposures for cutting and signals completion of a card so that

the appropriate legend for the following card may be photographed next.

**How it's done:** The exposure switch advances the exposure counter and activates the internal camera control to trip the shutter and advance the film. When the counter reaches six (the number of two-frame exposures per row), it advances the row counter, operates the rotary solenoid to place the external shutter in front of the lens, operates the camera shutter and film advance twice, retracts the external shutter, and resets the exposure counter to zero.

For follow cards, when the row counter reaches six, the new card signal lights to tell the operator

(continued overleaf)

that the next exposure will be the first frame of a new card. This enables the operator to place the new card identifying information before the camera. If the card being made up is the first card of the document, a switch on the row counter is set so that the fifth row will be the last, in order that a masthead may be stripped into the card. At the end of a document, the external shutter manual switch is depressed and held along with the exposure switch long enough to complete the row and provide an interdocument space. Pushing the reset returns both counters to zero for the start of the next document.

**Notes:**

1. The application of these techniques should be of interest to organizations producing microrecords.
2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer  
National Aeronautics and Space Administration  
Code ATU  
Washington, D.C., 20546  
Reference: B65-10313

**Patent status:** NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA, Code AGP, Washington, D.C., 20546.

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